

No more useful legislation has ever been proposed in the United States, and the benefits accruing to the agricultural industry and botanical science, from the establishment of such stations, would be incalculable. The provision for original research and the prompt publication of results is a most commendable feature, and the bill is worthy of the heartiest support. Immense pressure has been brought to bear upon Congress, and the friends of the bill confidently expect its passage. In this hope the GAZETTE earnestly joins.

NOTES AND NEWS.

DR. GOEBEL, of Rostock, will succeed the late Dr. Wigand at Marburg.

DR. S. A. T. TUELBERG, a Scandinavian botanist, died December 15, 34 years of age.

MR. A. H. CURTISS is editor of the *Florida Farmer and Fruit Grower*, published at Jacksonville, Fla.

RUDOLF VON UECHTRITZ, chiefly known for his studies of the Silesian flora, died November 21 last, at 48 years of age.

DR. A. F. W. SCHIMPER, formerly connected with the Johns Hopkins University, has just returned to Bonn from a journey in Brazil.

MR. WILLIAM FAWCETT, of the Botanical Department, British Museum, has been appointed Director of the Jamaica Botanical Gardens.

DON FRANCISCO LOSCOS Y BERNAL, a Spanish botanist who did much to make known the flora of his region, died November, 1886, at the age of 63.

A STUDY of the microbe of rabbit septicæmia by Dr. T. Smith has been distributed by the author from the *Journal of Comparative Medicine and Surgery*.

THE ENUMERATION of North American Hypocreaceæ by Ellis and Everhart comes to a close in the January *Journal of Mycology* with the 161st number.

MR. J. H. HART, superintendent of the Government Cinchona plantation (Jamaica), has been appointed superintendent of the Trinidad Botanic Garden.

DR. TSCHIRCH recommends the addition of lead or barium compounds to the alcohol used in preserving plants as an efficient method of retaining the original colors.

FATHER SCORTECHINI, a well known Indian botanist, recently died at Calcutta. His death was induced by severe work in the botanical exploration of Perak.

DURING the last ten years between 1100 and 1200 new plants from Madagascar have been described in the *Journal of the Linnean Society* and *Journal of Botany*. Twenty nine of these are new genera.

THE EDITORS of *Notarisia* desire to compile a directory of all writers and investigators who give attention to algæ. Such will please send their addresses to Messrs. De Toni and Levi, 3422 S. Samuele, Venice, Italy.

AT THE CHRISTMAS meeting of the Indiana Academy of Sciences, at Indianapolis, Dr. H. W. Wiley presented a valuable paper on the "Causes of the Variation of Sucrose in Sorghum," of which we shall publish an abstract shortly.

AS THE APPROPRIATION bill before Congress now reads, the work of plant pathology of the Agricultural Department will receive about \$5,000 for carrying on the next year's work, exclusive of salaries. But it may yet be cut down.

A SHORT ACCOUNT of the life and work of Dr. Georg Winter, editor of *Hedwigia*, from the pen of Prof. W. A. Kellerman, is given in the *Journal of Mycology* for January. A full list of his publications, forty-three in number, is appended.

TRUFFLES of edible size have finally been found in the United States. They come from Louisiana, and have been identified by Mr. J. B. Ellis as *Tuber niveum* (*Terfezia leonis* Tul.). It is reported quite common near Natchitoches, and is eaten by the residents.

HUGO DE VRIES suggests, in *Nature*, a method of preserving such colorless plants as *Monotropa* in alcohol without their assuming a brown color. "To 100 parts of common strong alcohol add 2 parts of the ordinary concentrated solution of hydrochloric acid of the shops."

ON COMPARING the reprint of Röhl's *Zur Systematik der Torfmose* with the original in *Flora* we find that the paging has been so completely altered as to make it impracticable to state at length the changes. It is greatly to be regretted that such confusing changes should be introduced into important papers.

A. J. BROWN declares that the membrane commonly known as "mother of vinegar" is formed by *Bacterium xylinum*, n. sp., and not by *Bacterium aceti*, to which it has been ascribed. The membrane gives all the reactions of cellulose, which the bacterium forms from the dextrose and other sugars present.

THAT BOTANY is a suitable, and even very desirable study for young men is the conclusion reached by Dr. J. F. A. Adams in an article in the *Swiss Cross*, the new journal of natural history for the Agassiz Association, published in connection with *Science*. He has the botany of the plant collector chiefly in mind.

A NEW JOURNAL, *Agricultural Science*, has started with the year, which will doubtless contain more or less matter of interest to botanists. It is edited by Charles S. Plumb, of Geneva, N. Y., and is a monthly of twenty-four pages, rated at two dollars per annum. It presents an excellent appearance, and has articles in the first number by well-known scientists.

PROF. BAYLEY BALFOUR, in *Nature* for Dec. 9 (1886), confirms George Kleb's easy demonstration "that algæ make the water in which they live alkaline when they are fixing carbon in light. A watery solution of phenolphthalein is added, and in proportion as the fixation of carbon proceeds the water gradually assumes a deep red tinge, which gradually disappears when light is excluded."

DR. E. KLEIN, in *Nature* (December 23), calls the Cambridge cholera fungus (of Messrs. Roy, Brown and Sherrington) to account, and says it is a common mold which has developed during preserving of the material, and has grown from the free surface into the tissues, and has no connection with Asiatic cholera. His criticisms indicate a surprising lack of care in the work of the gentlemen referred to.

THE RESULTS attained by Mr. Roland Thaxter in the cultivation of *Roestelia* from spores of *Gymnosporangium*, which have already been partly described in this journal by Dr. Farlow, are given in detail in Proceedings of the American Academy, recently issued. In addition to what has already been said, it is noted that *G. macropus*, the common cedar-apple, is joined with *R. pyrata*, an American form of *R. penicillata*.

WE REGRET to record the death of Marshall P. Wilder, Dec. 17, in his eighty-ninth year, for many years president of the Am. Pomological Society, and so well known to all plant cultivators. The *Gardener's Chronicle* (Jan. 1), in an appreciative notice of his services, gives a characteristic extract from his last letter to them, dated March last, in which he mentions himself as "still living, and continuing to stir up the soil to see what it will produce."

IN THE *Journal of Botany* (January), Drs. De Toni and Voglino call attention to the vexation of homonymous genera. No remedy is suggested for existing confusion, but caution suggested in subsequent naming. For instance, *Antennaria* is a genus of *Compositæ* and *Hypomycetæ*, *Chauvinia* is a member of *Chlorophyceæ* and *Gramineæ*, *Cryptodiscus* is a *Discomycete* and an *Umbellifer*, *Leptotrichum* is a *Hypomycete* and a moss, and so on.

AT A RECENT meeting of the Cambridge (England) Philosophical Society, Mr. Walter Gardiner gave an account of the gland-bearing organs found in *Hodgsonia*. Studying the gland-bearing genera of *Cucurbitaceæ* and *Passifloraceæ*, he concludes that the function of the extrafloral nectaries of these two families is to attract certain insects (probably ants), which are of service in protecting the plant from the attacks of other and harmful insects, such as caterpillars.

THE LIBRARY of Kew has just come into possession of the rarest and most valuable Japanese botanical work, the *Honzo Dsufu*, by Iwasatti Tsanemasa. It contains colored figures of 1500 species, and is in 96 volumes, the first 6 of which only have ever been printed, the rest existing in hand-made copies, and only two or three copies are known to be complete. This magnificent work was presented to Kew by Mr. Tokutaro Ito, now a student of botany in the University of Cambridge.

DR. AITCHISON, of the Afghan Delimitation Commission, has made a collection of about 800 species (10,000 specimens) of the plants of that region. The collection has not been fully worked out yet, but it is estimated to contain about 100 new species. A curious *Umbellifer* (*Ferula oopoda*) is described, "in which the bases of the cauline leaves are developed into large circular bowls, through a succession of which, gradually smaller upwards, the stem passes. The largest of these bowls are a foot in diameter, and about two quarts in capacity." Dr. Aitchison thinks these bowls do not serve as reservoirs of water.

AT A RECENT meeting of the Linnean Society, Mr. C. T. Druery described a new instance of apospory in *Polystichum angulare*, var. *pulcherrimum*. A paper on apospory was also read by Prof. F. O. Bower, in the course of which he showed how in *Polystichum* at least four different modes of the origin of the oophyte may be distinguished, two being in connection with the sorus, while two are at points apart from the sorus, and may occur even on fronds which bear no sori at all. In considering the whole phenomenon of apospory Prof. Bower came to the conclusion that it is to be regarded rather as a sport than a reversion bearing deep morphological conclusions with it.

THE BIENNIAL REPORT of the University of Nebraska shows that a remarkable growth has taken place in its scientific departments under the leadership of Dr. Bessey. For botany, with which we are most concerned, there are five rooms required, now provided with an outfit of many compound and simple microscopes, a library especially valuable in serial works, over twenty-three thousand specimens in the herbarium, and other useful and illustrative material. The standard of scholarship has been considerably raised during these two years.

DR. G. HABERLANDT, investigating the structure of stinging hairs of various families, finds their essential structure very similar. Usually there is a large terminal cell, more or less sunk in a multicellular base by which it is attached. A short distance below the point the walls of the terminal cell are very brittle, made so either by the deposit of mineral substances or by lignification. The substance which produces the irritation is not yet known. Formic acid, to which the urtication has been ascribed, he thinks will not produce the effects in the small quantity in which it is present.

THE first number of a new journal devoted to animal and vegetable parasites has been received. It is entitled *Centralblatt für Bacteriologie und Parasitenkunde*, and is edited by Dr. Uhlworm, of Cassel, Germany, assisted by Drs. Leuckart and Loeffler, and a very long list of promised contributors. Dr. Sternberg, of Johns Hopkins University, will represent the editor in this country. It is a bi-weekly of the size and appearance of the *Botanisches Centralblatt*, and promises to be in its field an equally useful journal. It will at least be indispensable for bacteriologists. The price per year is 28 marks (\$7).

A SIMPLE METHOD of detecting ptomaines at the time of their formation has been devised by Alexander Poehl, according to Biedermann's *Centralblatt*. A needle culture is made in nutritive gelatine [kept in the dark presumably], to which has been added .05 per cent. of ferric chloride, and the same of ferricyanide. In twelve hours the organisms will have grown sufficiently to bring about a reduction, if any ptomaine is formed, giving rise to Prussian blue, which will at once be evident by its color. The presence of air prevents the change taking place at or near the surface of the gelatine. For organisms which require an alkaline medium, the culture must be acidulated with hydrochloric acid after the lapse of sufficient time for the growth of the bacteria, in order to bring out the blue color in the presence of a ptomaine. An interesting result of the studies already made is that the forms which liquefy the gelatine are found to induce no reduction.

IN *Nature* for December 16 (1886), D. Morris gives two interesting instances of the dispersion of Jamaican plants by birds. *Uncinia Jamaicensis* has light fruits bristling with hooks very favorable for grasping the migratory birds. Small birds have been known to become so entangled by them that they were unable to extricate themselves. As a result this plant is dispersed plentifully in the track of migratory birds. *Pimento vulgaris*, which gives rise to the great allspice industry of Jamaica, is distributed by frugiverous birds, by whom the fruit is greedily eaten. In fact, it is said that this industry is entirely dependent upon the action of frugivorous birds. Ground is prepared for a new pimento plantation, and in a year an abundance of young pimento plants will be found growing from ripe berries scattered there by birds. It is thought that the seeds undergo some fermentation in passing through the alimentary canal, which fits them better for vegetation than those gathered immediately from the tree.

THE RELATION of nutrition to sexual variation, advocated by Meehan, Hoffmann and others, appears to have been observed long ago. F. W. Burbridge calls attention, in the *Gardeners' Chronicle*, to a statement in Threkeld's "Synopsis Stirpium Hibernicarum," published in Dublin in 1727, which says: "The male hemp has the seed, the female only flowers, yet both are procreated from the same seed. The more attentive husbandmen observe that in a fat soil you have more plenty of male hemp—in a lean soil more of the female; or where sown too thick, and so wants nutritious juice, it is female." Transposing the words "male" and "female" to accord with present usage, and the account agrees with recent investigations.

FUNGUS DISEASES of the grape-vine is the topic of the second bulletin of the Botanical Division of the Department of Agriculture, prepared by F. L. Scribner. It contains 136 pages, illustrated with seven excellent plates, partly colored, and with cuts in the text. The diseases described are the downy mildew (*Peronospora viticola*), powdery mildew (*Uncinula spiralis*), black rot (*Phyalospora Bidwellii*), anthracnose (*Sphaceloma ampelinum*), leaf blight (*Cercospora viticola*) and leaf spot (*Phyllosticta Labruscæ*). These are carefully discussed, both botanically and practically. An article by Col. Pearson, of New Jersey, is appended, together with a translation of several articles on French and Italian remedies. A copious index closes a paper which does credit to the Department, and will be of service to both the botanist and vineyardist.

THE *Journal of Botany* for January contains a biographical sketch (with portrait) of the late Dr. H. F. Hance, prepared by F. B. Forbes. Dr. Hance was born August 4, 1827, in London, and died at Amoy (where he was acting consul) June 22, 1886. His name is closely identified with Chinese botany, and his contributions, of late years, in the *Journal of Botany*, have made his name familiar to all botanists. Sir Joseph Hooker gives the following estimate of his scientific work: "With regard to Dr. Hance's botanical attainments and the value of his labors, I can speak in very high terms. For upwards of 40 years he devoted all his spare time to investigating the vegetation of China, displaying rare ability in mastering the technicalities of structural and descriptive botany, at times enriching the scientific journals in England with accounts of new plants of great interest in a botanical and economic point of view. In all that he attempted he aimed at critical accuracy in identification and diagnosis, and this he attained in an eminent degree, so that there is no possibility of failure in recognizing from his descriptions the plants he had under examination. Had Dr. Hance lived he would doubtless have given in a connected form an account of the vegetable riches of China, such as it would have been far beyond the grasp of any other naturalist to have produced, and this, too, with a classical diction that is extremely rare in the writings of scientific men. As it is, he has left no successor in China."